

MORPHINONE REDUCTASE FOR THE PREPARATION OF HYDROMORPHONE AND
HYDROCODONE; POLYPEPTIDES IN SYNTHESIS OF ANALGESICS

Document Type: UTILITY

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Preissuance Assignment Actions: Reel: 007313 Frame: 0967

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5571685	19961105	US 94343606	19941130
Priority Applic:			GB 9213524	19920625
PCT Information:	WO 94565	19940106	WO 93GB1129	19930528
Section 371 Filing Date:				19941130
Section 102(e) Date:				19941130
Calculated Expiration:	20131105			

Abstract:

A morphinone reductase enzyme and related process provide for the preparation of hydromorphone from morphinone and hydrocodone from neopinone or codeinone. The enzyme has no significant activity with compounds of similar ring structure, has a molecular weight of approximately 81 kilodaltons and is composed of two identical subunits. The enzyme uses NADH as a cofactor and displays no significant enzymatic activity in the reverse

direction.

Exemplary Claim:

1. A purified morphinone reductase enzyme having the N-terminal amino-acid sequence: Pro Asp Thr Ser Phe Ser Asn Pro Gly Leu Phe Thr Pro Leu Gln (Seq ID NO:1).

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